

Application No. 10/044,300
Amendment dated August 7, 2003
Reply to Office action of May 07, 2003
Docket Number 22727/04066

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application:

Listing of Claims:

Claims 2 and 3 are hereby cancelled without prejudice or disclaimer.

1. (currently amended) A transgenic grass plant whose color phenotype is ~~different~~ changes from the color phenotype of the corresponding non-transgenic grass plant species from which the transgenic grass plant was derived to signal its exposure to a chemical or stress conditions, the transgenic grass plant comprising a transgene comprising:

a) an exogenous anthocyanin regulatory gene; and

b) an inducible promoter for regulating transcription of said anthocyanin regulatory gene, said promoter being operably linked to said anthocyanin regulatory gene,

wherein the promoter is responsive to contact of the transgenic grass plant with a chemical or stress conditions, and wherein a change in the color phenotype of the transgenic grass plant signals response of the transgenic grass plant to a chemical or stress conditions.

4. (original) The transgenic grass plant of claim 1 wherein the promoter is a stress inducible promoter.

5. (original) The transgenic grass plant of claim 4 wherein the stress inducible promoter is responsive to lack of fertilizer, lack of water, or infection with a pathogen.

6. (currently amended) The transgenic grass plant of claim 1 wherein the promoter comprises one or more ~~is of the promoters~~ selected from the group consisting of the maize rab28 gene promoter, the maize rab17 gene promoter, the maize Ivr2 gene promoter, and the hydroxyproline-rich glycoprotein gene promoter.

7. (original) The transgenic grass plant of claim 1 wherein the promoter is a chemical inducible promoter.

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8. (original) The transgenic grass plant of claim 1 wherein the chemical inducible promoter is responsive to a steroid or estradiol.
9. (original) The transgenic grass plant of claim 1 wherein the grass is a turfgrass.
10. (original) The transgenic grass plant of claim 1 wherein the turfgrass is selected from the group consisting of Tall fescue, Kentucky bluegrass, Perennial ryegrass, Creeping bentgrass, Bermuda grass, and Zoysia grass.
11. (currently amended) The transgenic grass plant of claim 1 wherein the anthocyanin regulatory gene is selected from the group consisting of ~~a maize C1 gene~~, a maize R gene, a combination of a maize C1 gene and a maize R gene, ~~and a chimeric maize C1/R gene~~, and a DNA construct encoding a chimeric CRC protein.
12. (currently amended) A nucleic acid construct comprising:
 - a) an anthocyanin regulatory gene selected from the group consisting of ~~a C1 gene~~, an R gene, a combinations of a C1 gene and an R gene, ~~and a chimeric maize C1/R gene~~, and a DNA construct encoding a chimeric CRC protein; and
 - b) a stress inducible promoter operably linked to the anthocyanin regulatory gene, wherein the stress inducible promoter is responsive to stress conditions selected from the group consisting of lack of fertilizer, lack of water, ~~or~~ and infection with a pathogen.
13. (currently amended) The nucleic acid construct of claim 12, wherein the inducible promoter comprises one or more ~~is of the promoters~~ selected from the group consisting of the maize rab28 gene promoter, the maize rab17 gene promoter, the maize lvr2 gene promoter, and the hydroxyproline-rich glycoprotein gene promoter, ~~and combinations thereof~~.
14. (currently amended) The nucleic acid construct of claim 12, further comprising one or more ~~is of the a-sequences~~ selected from the group consisting of a leader sequence, intron sequence, transcription terminator, and a polyadenylation site, ~~and combinations thereof~~.

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15. (currently amended) The nucleic acid construct of claim 12, further comprising one or more is of the a-sequences marker gene sequences selected from the group consisting of a selectable gene sequence, and a T-DNA sequence, or combinations thereof.

16. (currently amended) A method for making a transgenic grass plant which exhibits a color change in response to its exposure to a chemical or stress conditions different from the color exhibited by the corresponding non-transgenic grass plants, comprising:

a) introducing a nucleic acid construct into a plant cell or protoplast, said construct comprising

i.) an exogenous anthocyanin regulatory gene; and

ii.) a-an inducible promoter for regulating transcription of said anthocyanin regulatory gene, said promoter being operably linked to said anthocyanin regulatory gene.

b) regenerating transgenic grass plants from said using the plant cells or protoplasts containing said nucleic acid construct to generate transgenic grass plants,

wherein a change in color of the transgenic grass plant signals response of the transgenic grass plant to a chemical or stress conditions.

17. (currently amended) The method of claim 16 wherein the nucleic acid construct is introduced into a plant cells using a method selected from the group consisting of microprojectile bombardment, electroporation, microinjection, induced uptake, aerosol beam injection, direct DNA uptake, liposomes, *Agrobacterium*-mediated transformation, and combinations thereof.

18. (original) The method of claim 16 wherein the plant cell used for introduction of the nucleic acid construct is from a grass plant selected from the group consisting of Tall fescue, Kentucky bluegrass, Perennial ryegrass, Creeping bentgrass, Bermuda grass and Zoysia grass.

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19. (currently amended) The method of claim 16 wherein the promoter is selected from the group consisting of a stress inducible promoter, and a chemical inducible promoter, ~~and a constitutive promoter.~~

20. (currently amended) A seed of any generation of the transgenic grass plant of claim 1, wherein said seed comprises a said transgene comprising:

~~— a) an exogenous anthocyanin regulatory gene; and~~

~~— b) a promoter for regulating transcription of said anthocyanin regulatory gene, said promoter being operably linked to said anthocyanin regulatory gene.~~

21. (new) The nucleic acid construct of claim 16, further comprising a sequence selected from the group consisting of a leader sequence, intron sequence, transcription terminator, polyadenylation site, and combinations thereof.

22. (new) The nucleic acid construct of claim 16, further comprising a marker gene sequence, a selectable gene sequence, T-DNA sequence, or combinations thereof.

23. (new) The nucleic acid construct of claim 16, wherein said anthocyanin regulatory gene is selected from the group consisting of an R gene, a combination of a C1 gene and an R gene, a maize C1/R gene, and a DNA construct encoding a chimeric CRC protein.